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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,434	12/21/2000	Takashi Fukuda	2000_1743A	5280

7590

08/05/2002

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EXAMINER

ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

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DATE MAILED: 08/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,434

Applicant(s)

FUKUDA ET AL.

Examiner

Martin J Angebranndt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language of claim 1 should recite that it comprises - - a thin film of a polymeric compound containing an azobenzene moiety - - .

This is the correct nomenclature for this and clearly indicates attachment of the azobenzene to the polymeric compound.

In claim 2, the preamble should indicate that it is a method according to claim 1, not an "improvement"

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Brooks '012 or Champagne '381, combined with Natansohn et al. '381.

Brooks '012 teaches the formation of microholograms, which are magnified images of the object recorded. In figures 1, the laser beams is split into the reference (14) and object beams (15). The holographic recording medium (20) in figure 1 records the overlap of the focused object beam with a portion of the reference beam. Clearly, the area covered by the object beam is a subset of that covered by the reference beam. The recording of plural images in the medium

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and the need to move the medium is disclosed. (3/1-8) . The use of photochromic materials as the holographic recording material is disclosed. (2/13-16)

Champagne '381 teaches the use of double exposure holograms in defect or stress analysis. The area of the recording medium (64 or 92 in figures 1 and 3) exposed to the object beam (52,82 & 88) is less than that illuminated by the reference beams (68 and 96). The formation of holograms in sequential areas is disclosed along with the need for development. (2/64-68). The focusing of the light from the specularly reflective object allows a shortening of the exposure times due to more efficient light collection. (2/8-43).

Natansohn et al. '381 teaches polyesters, polystyrene, polyacrylates, polyurethanes, polyamides and polymethylmethacrylates with photochromic azobenzene moieties incorporated therein. (4/48-5/68). The recording of gratings or holograms is disclosed. (8/3-6 and 8/36-37). These are disclosed as erasable. (8/14+).

It would have been obvious to one skilled in the art to modify the process used by either of Brooks '012 or Champagne '381 with respect to the cited figures by using the azobenzene containing polymeric materials of Natansohn et al. '381 to allow erasure and reuse of the recording media to image another object. Further, the photochromic azobenzene materials of Natansohn et al. '381 do not require a development process to be visualized/read.

Alternatively, it would have been obvious to one skilled in the art to modify use the media of Natansohn et al. '381 to record various holograms which are old and well known in the art as being useful for defect analysis or recording images of minute materials using old and well known methods such as those of either of Brooks '012 or Champagne '381

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5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

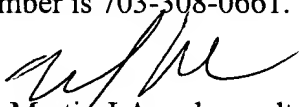
Hvilsted et al. '670, Berneth et al. '799, Bieringer et al. '846, Eich et al. '859 and Savant et al. '221 teach various polymeric materials with azomoieties bonded thereto.

Marom et al. '713 (figure 1), Tsunoda et al. '193 (figure 1), Spitz '723 (figure 7) and Rosen '012 (figure 3) teach overlapping of focused object beams with only a portion of the reference beam.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebrannt whose telephone number is 703-308-4397. The examiner can normally be reached on Mondays-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Martin J Angebrannt
Primary Examiner
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August 1, 2002